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Technology CONTINUATION

bulletin

NATIONAL TUBERCULOSIS ASSOCIATION

FEBRUARY 1957

MEDICAL EDUCATION:

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— R. H. Browning, M.D.

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EDITORIAL

Medical Education Is Our Business

By R. H. Browning, M.D.
Director, Ohio Tuberculosis Hospital

"The TB problem is pretty well licked now that we have isoniazid"! About a year ago this reckless and untrue statement was made by the chairman of the Department of Preventive Medicine in a prominent United States medical school. It is quoted here to illustrate two points: first, the lack of knowledge and the overoptimism of much of the medical profession regarding TB now that we have some effective bacteriostatic drugs; and second, the urgent need that each medical school should have an effective chest teaching program supervised by a physician well trained in pulmonary diseases.

The first line of attack, then, is the medical student. He is the medical teacher, the practicing physician, the researcher, the health commissioner, and the clinic physician of tomorrow. He is one of a captive audience of 28,000 in 83 medical schools. It is essential that he leave medical school not only with sound basic knowledge in this field, but also with some enthusiasm for it and with comprehension of the scope and challenge of TB and other pulmonary diseases.

The National Tuberculosis Association and the American Trudeau Society are committed to a policy of promoting and assisting in the education of the medical profession in pulmonary diseases. To this end, the NTA first established a Medical Education Committee in 1937. This evolved finally to the status of a standing committee of the ATS in 1953. A director of Medical Education was appointed in May, 1953. Both committee and director have been and are working diligently to improve the quality and quantity of chest disease teaching.

Let it be said that this is a tough problem. Some uninformed persons believe that the field of medicine in chest diseases is of diminishing importance. This idea does not square with the facts. Not only is TB control a major problem which will be with us for many years, but other aspects of pulmonary disease assume greater significance as the population ages. Prime examples are emphysema, chronic bronchitis, and lung tumors.

There is strong competition for the "bright young minds" in medicine. One has only to think of the promotion of interest, both lay and medical, in heart disease, mental health, and others. Active recruiting goes on among medical students, interns, and residents. Lucrative fellowships are available.

Despite an increase of activity along these lines by the NTA, ATS, and affiliates, the results lag far behind the need. For July, 1956, a total of 23 teaching fellowships were awarded by the ATS for the entire United States. Funds were derived chiefly from NTA sources with the help of "matching dollars" from a number of local and state associations. Because of limited funds, the average award is pitifully low in contrast to other fellowships available, and also in contrast to the need of the recipients. The majority of fellows are married; many have children. Their needs are not being met in a way that reflects much credit on the ATS. The present program is a step in the right direction, but it is a small step at a time when the situation calls for a giant stride.

The need for well-informed and interested physicians is local. It exists in every village and city. It is the genuine concern of every TB association. In the absence of such physicians, the TB control program will surely suffer and is suffering at this time.

One need only recall the 1955 Public Health Service survey of "The Nonhospitalized Tuberculosis Patient." In 48 per cent of the home-treated group, sputum status was unknown or undetermined during the previous six months. Among 2,272 "active and presumably active" home-treated cases, 1,282, or 56 per cent, had no prescription of drug therapy. Most of the same group had no recommendation for rest! What a travesty on public health procedure and TB therapy.

The scope of an adequate medical education program is far beyond the resources of the NTA. Consultation and demonstration are available from the NTA and the ATS, but the major support will have to come from constituent and local associations.

From these facts stem the programs described on the next four pages—in which state-wide funds were formed to provide support for both medical education and research in pulmonary diseases.

bulletin

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The Massachusetts Way

Through the Joint Efforts of Massachusetts Tuberculosis Associations and Interested Doctors, Three Leading Medical Schools Now Offer Comprehensive TB Courses

by

Kenneth T. Bird, M.D. **Margaret M. Drennan**

Dr. Bird is an instructor in medicine at Harvard and Tufts Universities' Medical Schools. He is a member of the Joint Medical Education Committee of the Massachusetts Tuberculosis and Health League and of the Medical Education Committee of the American Trudeau Society, and has been active in local tuberculosis association programs. Miss Drennan is director of health education at the Massachusetts Tuberculosis and Health League. Prior to this she was a health educator with a county tuberculosis association and a health educator with the Cambridge Health Department. Their article was suggested by the Governing Council of the National Conference of Tuberculosis Workers.

The third year of medical school provides an ideal time to teach tuberculosis and to help stimulate a lifetime awareness of the problems, both diagnostic and therapeutic, of chest disease. At this stage in his career, the student is becoming increasingly interested in the challenge specific diagnosis offers, and has learned how important proper diagnosis is in order to direct proper treatment. Tuberculosis, the great imitator of all pulmonary disease, is the ideal disease process to stimulate the interest of the future physician.

The teaching program thus offered by the tuberculosis movement in Massachusetts through the local voluntary associations is actually the first step in the preparation of the young physician for his future role in the coordinated treatment of hospital and home care of tuberculosis. Studies show that present home treatment programs are often inadequate, but the annual instruction of nearly 300 medical students—tomorrow's physicians—will soon exert its effect. This teaching will also help stimulate interest in the more exact diagnosis and treatment of all pulmonary disease and particularly in pulmonary emphysema, which is rapidly becoming our most disabling chronic lung disease.

The action of the Massachusetts Tuberculosis and Health League in promoting the teaching of tuberculosis in three great medical schools offers an example of the newer role of the voluntary health associations in the ultimate control of tuberculosis and dramatically indicates the urgent need for the well-integrated, intensive, enthusiastic teaching of tuberculosis to every medical student everywhere.

Prior to World War II, the teaching of tuberculosis by Harvard Medical School was conducted at Middlesex County Sanatorium, but it was interrupted by the war's arrival. Dr. Donald S. King, former president of the American Trudeau Society, was then in charge of this course, which was known affectionately as the Four K's—King's Koncentrated Kourse in Konsumption.

Postwar Changes

In the postwar period, the rapid increase in newer medications, including the chemotherapeutic agents, antibiotics, and steroids, caused many medical schools to reorganize their teaching programs to stress these vital discoveries. Although didactic lectures on tuberculosis continued, bedside teaching was minimized and sanatorium facilities were not utilized.

In large part, general hospitals themselves also contributed to the decline of tuberculosis instruction. The admission of a patient with active tuberculosis to a general hospital (other than a few in certain large cities) is still a cause for alarm by the hospital administrator, who must be concerned with the hazard of contagion, however remote, as well as with the occupational compensation aspects of this chronic disease in his personnel. Translated into action, this means that a prompt transfer for definitive treatment of the tuberculous patient must be made. Often, the patient is discharged to home pending arrangements for sanatorium admission.

Because the administrative desire to expedite the transfer of the patient with active tuberculosis elsewhere is urgent, the intern and resident staff can seldom study, observe, or treat the tuberculous patient. In short, the teaching of tuberculosis of necessity is minimized in most general hospitals.

To arouse new interest in the teaching of tuberculosis in the three medical schools of Boston—Harvard, Tufts, and Boston Universities—was a large task. There was no demand from the students; no medical school department was anxious to surrender any of its own valuable teaching time. In fact, the departments were seeking additional time.

Revitalizing the Seeds

But three physicians rose to the challenge. In 1951, Dr. Joseph C. Aub, professor of medicine at Harvard Medical School, long interested in the art of physical diagnosis by the trained eyes, ears, and hands, met with Dr. Donald S. King, another experienced teacher of medical students and physicians, and Dr. Francis P. Dawson to attack the problem. Dr. Dawson, superintendent of the Middlesex County Sanatorium, Waltham, Massachusetts, and a teacher at the Harvard School of Public Health, had long been associated with the Middlesex Health Association and the Massachusetts Tuberculosis and Health League and was aware of the potential resources in the area.

It was decided that if funds could be raised and presented to one medical school, the teaching of tuberculosis could be revitalized. Since no medical school had sought such specific teaching, it was felt that as many details as

possible should be settled in advance. Harvard Medical School was suggested, and the facilities at Middlesex County Sanatorium again became available.

The executive secretary of the Middlesex Health Association, who had always been active in public health measures, became seriously interested in this facet of public health—the better education of medical students. Through his vigorous efforts and with the cooperation of his association, $4,000 was raised and presented to the Harvard Medical School.

This money was to be used for teaching aids and to offer a modest honorarium to the instructors who were to participate in this new type of tuberculosis teaching. Six instructors to individually teach the 125 students of Harvard Medical School were advised. Dr. Aub felt strongly that an adequate honorarium was essential to attract instructors from their own active practice of medicine and chest disease, to have them cancel other obligations, to better insure enthusiastic teaching, and to whet their sense of obligation to medical education. The eventual spread of this new program of tuberculosis teaching to the great medical schools in Massachusetts is convincing evidence that this approach was warranted.

The First Course

In September, 1953, a 12-hour course was started for the third-year students of Harvard Medical School at Middlesex County Sanatorium. Thus the Middlesex Health Association was the first local voluntary tuberculosis association to sponsor the specific teaching of tuberculosis to medical students in Massachusetts.

The enthusiastic reception of this first course by the third-year students of Harvard Medical School during the 1953-54 academic year left no doubt that the unique opportunity to learn more about tuberculosis at the sanatorium was appreciated. "Why can't other diseases be taught this way?" was a frequent student suggestion.

At the start of the academic year in September, 1954, Middlesex Health Association presented another $2,000 to Harvard Medical School to continue the teaching program. A matching sum was obtained from an anonymous source, and the teaching for that school year was once again extraordinarily well received by a new third-year class of 125 students from Harvard Medical School.

Growth and Development

The executive director of the Massachusetts Tuberculosis and Health League was impressed by the contributions of the progressive Middlesex Health Association to medical education in particular and to health education in general. In early 1955, he appointed a joint committee of the state league and its medical section, the Massachusetts Trudeau Society, under the direction of Dr. Edward J. Welch, president of the latter society. This committee, which met later in the year, was impressed by the course at Harvard and focused attention on the need for similar teaching assistance at Boston University School of Medicine and Tufts Medical School, both also located in Boston.

Working directly with the state league's executive director, Dr. Welch presented the opportunity to the Board of Directors of the league. The possible sponsoring of medical education by a voluntary health association was at first regarded by some as too radical a departure. But the majority of the board were fired by these new potentialities offered to the tuberculosis movement in Massachusetts, and agreed to attempt the ambitious project of introducing similar programs at Boston University and Tufts Medical Schools.

The joint committee felt that the sanatorium should continue to be the focal point in the expanded teaching program if possible. The Channing Home, in Boston, and the Cambridge Sanatorium facilities became available. Through the direct active interest of the Massachusetts Tuberculosis and Health League and the enthusiastic response of the majority of local tuberculosis associations in the state, a total of $10,000 was raised to help sponsor the teaching of tuberculosis at the three great Boston medical schools.

These new programs began in the fall of 1955 after presentation of funds to the dean of each of these schools. The newly organized courses are patterned after the course reintroduced at Harvard Medical School and have become equally popular.

The great imitator of every pulmonary disease is still tuberculosis. To produce even better physicians, the subtle vagaries of this disease must be carefully related to the medical students of today. The sanatorium setting provides the ideal background for the training of the medical student. Here, all aspects of the tuberculosis spectrum can be seen and studied. The diagnostic methods needed, the specific drugs used, the surgical procedures employed, the usefulness of vocational guidance and rehabilitation can all be shown in the proper perspective in the sanatorium.

NTA Annual Meeting

The sessions formerly called Community Action, to be held at the NTA Annual Meeting in Kansas City, Mo., May 5-10, are now titled Public Health Sessions. The General Program Committee, of which Herbert C. DeYoung is chairman, felt that the new title more aptly described the content of the sessions and would be better understood by newcomers and those outside the "family."

The March issue of the BULLETIN will contain the Preliminary Program for the Annual Meeting, together with articles of special interest on various activities connected with the meeting.

Hotel reservations should be made immediately by writing to the Convention and Visitors Bureau, 1030 Baltimore Ave., Kansas City, Mo. Reservation blanks, giving detailed information on location and rates of various hotels, may be obtained from the NTA, 1790 Broadway, New York 19, N. Y.

Family Education Program

To educate the families of TB patients, the Nueces County (Tex.) Tuberculosis Association is undertaking a series of monthly meetings. Families will be taught the importance of hospitalization and the need to help the patient maintain "peace of mind."

How Kansas Did It

Working with the State University Medical School, the Kansas Tuberculosis Associations Have Set Up a Program Without Precedent in Medical Education

by Martin J. FitzPatrick M.D.

Dr. FitzPatrick is chief of the Section for Pulmonary Disease, University of Kansas Medical Center. After graduating from the College of Physicians and Surgeons, Columbia University, he interned at Bellevue Hospital and then became a resident in internal medicine and chest service at Bellevue and Roosevelt Hospitals. He is a diplomate of the American Board of Internal Medicine, a member of the Committee on Medical Education of the American Trudeau Society, and president of the Kansas Trudeau Society. His article is a contribution from the Committee on Medical and Public Relations of the American Trudeau Society.

The past ten years have witnessed profound and gratifying changes in many of the perplexing problems of tuberculosis control and treatment. There is good reason to believe that this rapid and, at times, disturbing evolution brought about by the application of advances in medical and social sciences to this age-old problem will continue on into the future.

During this same decade, many significant forces in the field of medical education have also been at work. Some have already had a recognizable effect on medical practice in many communities, and will undoubtedly influence the health and well-being of all of us in the future. Thus, it would appear wise to examine briefly some of today's problems of medical education, which, since they relate to the future supply of physicians, are of great interest to all concerned with the present and future control of tuberculosis.

The Raw Material

In considering the supply of trained and interested physicians for work in this or any other discipline of medicine, one should properly start with an analysis of the raw material—the young men and women seeking admission to our medical schools. Today, in general, we find fewer well-qualified applicants than in former years. This is probably related to the spectacular advances recently achieved in other sciences, which have opened up rewarding and challenging careers.

However, the staggering rise in tuition and fees for medical education, the two years of military service awaiting all non-veteran male graduates, and the present pattern of marriage at younger ages have also undoubtedly contributed to the dwindling medical pool available to serve patients with tuberculosis and other ills.

The gratifying fall in the prevalence of tuberculosis in our medical students and young physicians, among others, has further reduced a most important source of today's dedicated physicians practicing in this specialty. Thus, the future pattern of some of these factors may pose a problem of grave concern to the tuberculosis control program.

The enormous growth in complexity of medical and related scientific knowledge in recent years has made it virtually impossible to adequately train and to mature the physician of today or tomorrow in the four years of curriculum now available. As a result, medical education has expanded into the internship and residency training programs, available to some of our physicians after graduation and licensing. This growth has also highlighted the fact that today's physician must of necessity continue to be a student for the duration of his professional career and has led to the rapid development of postgraduate medical education. This gradual evolution has made it possible for busy physicians to be enrolled in continuing educational experiences in their communities, and thus to keep abreast of important changes in treatment of all major illnesses, including tuberculosis.

The chronic shortage of trained physicians in many communities, and the recent immigration of scores of foreign-trained physicians to this country, have also pointed out further need for development of broad and continuing programs of graduate medical education throughout the country.

The Kansas Program

Some ideas and lessons for future guidance in this uncharted area can be obtained from reviewing the joint experiences of the University of Kansas School of Medicine and the Kansas Tuberculosis and Health Association in trying to cope with some of these problems in recent years.

In 1953, the Kansas Christmas Seal Chair of Thoracic Diseases was established at this university through the financial support of state and local tuberculosis associations. This unique step, without precedent in medical education, was the result of a spontaneously felt need on the part of the membership to improve undergraduate and graduate training of medical and nursing students in this area, and to form the nucleus of a postgraduate training program in pulmonary disease that would ultimately reach most of the general practitioners of Kansas. It enabled the university to obtain a full-time physician to deal with these academic matters, and to direct the clinical services necessary for the current teaching of tuberculosis and other pulmonary diseases in a modern teaching hospital.

The fundamentals of tuberculosis are taught to our second-, third-, and fourth-year medical students as one of the chronic pulmonary diseases from a 42-bed unit that is an integral part of the Medical Center. Through this service, interns and residents rotate each year, and NTA teaching fellows are being trained to assume important roles in the tuberculosis control picture of Kansas and neighboring states.

In the past three years, the state and

local associations have also contributed to, and participated formally in, the activities of the Postgraduate Medical Education Division of the university. These have ranged from formal courses in pulmonary disease for physicians, held at the Medical Center with nationally recognized guest instructors, to circuit-riding teaching tours across Kansas to reach the family physician who cannot leave the demands of a rural practice in his county medical society meeting. Other activities have included courses for graduate nurses, for school and public health officials, and for medical technicians, all aimed at the broadest possible educational approach to tuberculosis.

During this time, the state Trudeau Society has seen a renaissance of interest and attendance at annual meetings. Scientific programs have been broadened to include reports on important research in tuberculosis and other related topics. There has been a general increase in medical interest in the problems of tuberculosis and pulmonary disease across the state, reflected in the rise in the number of new cases of tuberculosis reported by practicing physicians in 1954 and 1955.

Another measure of renewed statewide interest was the outstanding cooperation obtained from all individuals by the Kansas Tuberculosis Survey Team, headed by Dr. Joseph B. Stocklen, whose recent study and report will help to shape the future tuberculosis control program of this state.

Two-Way Credit

This successful program has been made possible by working with a well-established Department of Postgraduate Education, which has led the country in three of the last four years in the number of graduate physicians enrolled. But it has also been made possible by the vision of the officers and directors of the local tuberculosis associations and their members, and for this the 1,096 physicians of Kansas who participated in all of our postgraduate programs last year can, in part, be thankful.

The success of these activities has led to a broadening of the educational program into other areas. In 1955 the Kansas Tuberculosis and Health Association took the lead in establishing a research and education committee to administer a special research fund, and to evaluate and support worthy studies in the field of tuberculosis being carried out in this area.

In 1956 the Lerrigo Memorial Laboratory, in honor of Charles R. Lerrigo, a Kansas leader in the fight against tuberculosis, was made possible by a generous endowment in support of a career investigator in this Medical Center, and a perpetual memorial dedicated to research in tuberculosis and related problems thus established.

Local Associations Have Vital Role

It is in the necessary blending of patient care, of teaching, and of research in the training of tomorrow's physicians and allied scientists that the further control of tuberculosis will be realized, and it is in this area that local associations can and should exercise a profound influence and leadership.

From these experiences, some deductions would appear to be in order and a look into the future justified.

It has been demonstrated that state and local tuberculosis groups can improve the caliber and scope of medical education in their community. This has had a far-reaching effect on the practice of medicine in this community and has been well received by the physicians of this state. It has been made possible by working within the framework of an established educational institution, the local university's Medical Center. The support and understanding of tuberculosis associations has also been a major factor in expanding this teaching program into the field of research, which will play a vital part in the future control of tuberculosis.

Some of the lessons learned from building this program, especially those enlisting the support and cooperation of the general practitioner, will undoubtedly be endorsed and passed on by the Committee on Medical Education of the American Trudeau Society to other geographical areas where the need exists. It is then hoped that once the need for these measures has been clearly presented to all, the support of these worthy and necessary adjuncts to the tuberculosis movement of the future will be as complete and spontaneous as it has been in Kansas.

Perfect Record

Not one case of TB develops among voluntary workers at VA hospitals

While the incidence of tuberculosis in the general population is approximately one case in every 1,000 persons, Dr. Leo V. Schneider, VA chief of Tuberculosis Control, reported that of 11,375 volunteer workers X-rayed at VA hospitals and other installations throughout the country from July 1, 1955, through June 30, 1956, not one had developed the disease since coming on duty.

The one case of active tuberculosis in a volunteer worker discovered by the survey was found in a routine check made by the VA just before the woman came into the volunteer program. Six cases of inactive tuberculosis were found at the initial check, which is made before a volunteer enters on duty.

Thus, Dr. Schneider said, the precautions exercised at VA hospitals not only make volunteer work in a TB hospital safe, but also help to uncover cases which would otherwise be a community hazard.

The VA case-finding survey program provides for initial and periodic X-ray examinations and tests for volunteers, regular employees, and patients.

New Rehabilitation Bibliography Published

Rehabilitation Literature, 1950-1955, compiled by Earl C. Graham and Marjorie M. Mullen, staff librarians of the National Society for Crippled Children and Adults, indexes and annotates 5,214 periodical articles, pamphlets, and books relating to medical care, education, employment, welfare, and psychology of handicapped children and adults.

This 621-page bibliography will help the reader not only to identify recent literature in his own area of responsibility but also to gain a clear concept of the entire rehabilitation program. Published by McGraw-Hill Book Co., Inc., the book is priced at $13.

Mass X-ray Costs

How Much Does a Mass X-ray Survey Cost? An Analysis of the Chicago Tuberculosis Association–Municipal Sanitarium Survey Provides Needed Facts and Figures

By M. R. Lichtenstein, M.D. and John Egdorf

Dr. Lichtenstein is medical director of the Municipal Tuberculosis Sanitarium in Chicago. He is also associate clinical professor of medicine, University of Illinois School of Medicine. Mr. Egdorf is executive director of The Tuberculosis Institute of Chicago and Cook County. He was formerly associated with the State Department of Public Health, the Illinois Tuberculosis Association, and the State of Illinois Division of Vocational Rehabilitation.

Since 1948, a continuous mass X-ray survey of the population of Chicago has been carried out cooperatively by the City of Chicago Municipal Tuberculosis Sanitarium, a tax-supported agency, and The Tuberculosis Institute of Chicago and Cook County, a voluntary Christmas Seal-supported agency. Because so little was known about the cost of such surveys, Dr. Ernest E. Irons and Herbert C. DeYoung, presidents of the Boards of Directors of the two organizations, asked that a cost analysis be made for 1954.

A large portion of the work was carried out by four mobile units. From May to October, these units traveled about the city according to a prearranged plan and took 70 mm. photofluorograms of all volunteers over fifteen. During the remainder of the year, these mobile units took X-rays of employees of industrial organizations and high schools. Throughout the year, two 70 mm. stationary units operated, and a third was used from April to December to X-ray admissions to the House of Correction. In addition, five MTS clinics took 4" x 10" photofluorograms of persons requesting them (not including those who had symptoms of disease or were referred in because of suspicion of pulmonary lesions).

Division of Labor

The TBI carried out practically all of the public relations program and the health education program; the scheduling for both MTS and TBI units, including planning of location, obtaining permissive clearances, hookups, and hours of operation; the preparation of detailed project instructions for unit personnel; the compiling of monthly unit schedules for general distribution; and the maintenance of all TBI X-ray unit equipment.

The MTS contributed the maintenance, the operation, and the repair of its units, the development and the reading of all films for both agencies, and the mailing of reports for both agencies.

The TBI also operates in the suburban area of Cook County, but the costs of this survey are prorated on the basis of that portion of work done within Chicago proper.

It was arbitrarily decided that the survey operation ended after the report on the screening film was mailed out. Thus, the diagnostic workup of screening abnormalities suggestive of tuberculosis, which consisted of 14" x 17" films, clinical and laboratory studies, is not included in the cost of the survey. MTS clinics carried out the diagnostic studies in the large majority of cases.

Film Results

There were 601,689 readable films taken. Among these were found 7,426 tuberculosis suspects, 1,009 cardiac suspects, 1,156 "other pathology" suspects, and 166 tumor suspects. No follow-up information could be obtained on 2,262, or 30.5 per cent, of the tuberculosis suspects. Many were nonresidents of Chicago or had left the city. Some were uncooperative or could not be located.

Of the remaining 5,164 patients on whom a final diagnosis was made, no tuberculosis was found in 2,073, or 40.2 per cent. The remainder were diagnosed as A, B, or C cases, in accordance with the U.S. Public Health Service's classification.

The A cases (active and probably active tuberculosis) numbered 994, or 19.2 per cent. Of these, 812 were previously unknown and 182 were previously reported cases.

The B cases (arrested or inactive tuberculosis) numbered 757, or 14.7 per cent. Of these, 425 were previously unknown and 332 were previously known cases.

The C cases (insignificant residuals of tuberculosis) numbered 1,340, or 25.9 per cent.

The survey thus yielded 1.35 new A cases per thousand readable films, 0.7 new B cases per thousand readable films, and 2.91 A plus B new and old cases per thousand readable films.

In 1954, 3,200 new active cases of tuberculosis were reported in Chicago. Of these, 812, or about 25 per cent, were detected by the mass X-ray survey. Of 4,011 new A and B cases reported in Chicago in 1954, 1,237, or about 30 per cent, were uncovered by the X-ray survey.

Cost Analysis

The total cost of the mass X-ray survey for 1954 was $397,913, of which MTS paid $194,706 and the TBI $203,207. The cost per single screening film was about $.65. The cost for each abnormal film was about $40. The cost per tuberculosis suspect film was about $53. The cost for each new active case of tuberculosis diagnosed was $490.

Although relatively few statistics are available on the actual cost of such surveys, the cost of $.65 per screening film in Chicago compares well with the $.92 per film quoted by the PHS. The latter, however, included the 14" x 17" retakes.

The cost of $490 per new active case

compares very favorably with the $800 reported in the Los Angeles mass survey. Dr. David B. Rosenthal, of Australia, as a result of informal conversations held in various cities, reports that the cost is "variously estimated from $700 to $5,000 per case." Obviously, the various estimates given are not strictly comparable, because of the lack of definition of a new reported case.

In the past few years, the mass X-ray survey method has been criticized because of the diminishing returns obtained in some parts of the country. Such criticism does not apply to a city like Chicago, where there are large slum areas, a large proportion of nonwhite persons, tremendous immigration of labor, and areas with very high mortality rates. The yield from the 1954 mass X-ray survey in Chicago was obviously well worth the cost.

A Limited Point of View

There is a tendency to measure the value of mass X-ray surveys on the basis of the cost per new active case. This is a limited point of view. The mass X-ray survey has many other values, among them (1) finding old active cases of tuberculosis who have been lost to observation, (2) locating old and new inactive cases so that they can be followed, (3) locating contacts of all the above groups, (4) finding other significant abnormalities, (5) stimulating public interest in the tuberculosis problem, (6) providing health educators with an entree to many industry, school, and community groups, (7) alerting an intelligent segment of the public to the TB problem through the use of large numbers of volunteers.

The mass X-ray survey continues to be of inestimable value in Chicago. There is good evidence that tuberculosis will be the greatest killer among infectious disease for many years. In spite of the declining death rate, the work load on tuberculosis agencies is increasing because of the increasing population, the immigration of susceptible groups, and the increasing number of partly recovered tuberculosis victims. Large-scale methods are required to control tuberculosis and protect the community, and the mass X-ray survey remains the cheapest of the large-scale methods thus far discovered.

VA-Armed Forces Conference on TB Chemotherapy

Latest developments in use of drugs in treating tuberculosis will be reported and discussed at the 16th Veterans Administration-Armed Forces Conference on the Chemotherapy of Tuberculosis, to be held in St. Louis, Mo., February 11-14. The sessions will be at the St. Louis Medical Society building, and the headquarters hotel will be the Coronado.

Immediately prior to the conference, several American Trudeau Society committees will meet at the Coronado. The Fellowship Board, the Committee on Therapy, and the Special Committee on Organizational Structure will meet February 9. The therapy committee will continue its session February 10, and the ATS Executive Committee will also meet that day.

New York Rehabilitation Program for Outpatients

Aided by a federal grant, the New York Tuberculosis and Health Association is starting on the second year of a three-year rehabilitation program for convalescent tuberculosis patients who are under clinic care. Covering the Washington Heights, Hamilton Grange, and Inwood sections of Manhattan, the program will provide counseling, vocational advice, recreation, a newsletter, a library, and similar services through the pooled resources of professional and volunteer workers.

The first year's activities included selection of a site, fact-finding consultations with lay and professional community leaders, and a study of patient characteristics. In January, 1957, actual services to patients began on an experimental basis.

Ford Funds Used for X-ray Unit

SISTER Mary Borgia, administrator of St. Mary's Hospital, Roswell, N.M., and Dr. Emmit Jennings, past president of the Chaves County (N.M.) Tuberculosis Association, admire the hospital's new photo-Roentgen unit, purchased with Ford Foundation Funds. St. Mary's is the first hospital in New Mexico to use Ford funds for this purpose.

Board Meeting Blueprint

By Carefully Planning the Agenda for Its Monthly Board Meetings, the Denver Tuberculosis Society Has Greatly Increased Interest and Attendance

by Graydon Dorsch

Mr. Dorsch has been executive director of the Denver Tuberculosis Society since 1948 and is presently chairman of the National Conference of Tuberculosis Workers Committee on Study of Program Activities. He was formerly executive secretary of the Santa Barbara County (Cal.) Tuberculosis and Health Association and secretary of the NCTW. A graduate of the University of California, he received his M.P.H. from Yale University. His article was suggested by the Governing Council of the National Conference of Tuberculosis Workers.

Cleaning up after our monthly board meetings, we often find a few mimeographed agendas which have been artfully embroidered with doodles. I have often thought that these works of art should be collected and then turned over to the psychiatrist on our board for analysis. Perhaps the doodles would tell us something important about the planning of our board meetings.

Certainly the mimeographed agendas that we put at each place are important, if only to furnish something on which board members can pencil out their tensions or boredom as our meetings progress. But they serve other functions as well.

As our Denver board meets at night, these same agendas tell the ladies on our board if further controversies are to come during the meeting or if it is time to join their waiting husbands, who have called for them. The doctors can see if the items of medical importance have been dispensed with and it is safe to slip out. Late-comers are put on notice of items which have already been covered and which, it is hoped, will not be brought up again for discussion.

More important to the presiding officer and the executive is the effect that the written agenda has in keeping the meeting moving and in pressuring the board into reaching decisions.

Laying the Groundwork

We have a strong-minded, self-willed board in Denver. We have deliberately encouraged this. But to complete our necessary business with dispatch, our agendas have to be carefully planned if our meetings are to be productive. It is easy for a group of intelligent, articulate people to wander off into fascinating but irrevelant conversational bypaths unless there is some effective means of focusing their attention on the job at hand. This is the *true* function of the agenda.

How, then, do we go about planning our agenda?

A check-list is maintained in the executive's top desk drawer at all times. All items are listed which might be reported to the board, either for decision or as points of information. This list includes policy matters; reports of committee meetings, staff activities, important correspondence, new program projects; reports of joint activities with other agencies; and matters of general interest or concern in the community TB control program.

About ten days before the monthly board meeting, this list is reviewed and amplified by the entire staff, priorities are indicated, logical groupings of items are worked out, and suggestions are made on the most effective ways of presenting the material to the board.

This rough agenda is then thoroughly discussed by the president and executive. The president is brought up to date on all matters about which he may not already be familiar. When the feelings of individual board members on specific issues are known, these are discussed frankly. In this way, the president is prepared to meet most eventualities at the board meeting.

At this conference the agenda is made firm. Final decisions are reached by the president and executive regarding the specific items which are to be included on the agenda, which may be deferred to a later meeting, and which can be handled without taking the time of the full board. The sequence of items is established so that important matters will be certain to receive attention.

When the notice of the board meeting is mailed to the members, mention is included of the principal items to be discussed at the meeting. Often important reports, study materials, the suggested budget for the year, or similar items are sent out with the notice, so that board members may study them in advance of the meeting and be prepared for their discussion.

All persons who are to present reports are immediately contacted by the appropriate staff member. Staff members often assist committee chairmen in preparing their reports. The staff is also responsible for seeing that committee minutes and other necessary documents are brought to the board meeting for reference. The board minute book, the bylaws, and the policy book are always on hand.

Content of the Agenda

The first four items of each agenda are usually the same, unless a special occasion indicates otherwise. These are the approval of the minutes of the previous meeting (which are distributed in advance of the meeting by mail to all members); the reading of the correspondence by the secretary; the presentation of the monthly financial statement of current expenditures, receipts, and budget balances by the treasurer; and the staff report.

This latter is a catchall item through which board members are quickly informed of minor program and administrative developments, and it is limited to ten minutes at the most. A fifth item, if appropriate, is the announcement of appointments made by the president since the last meeting.

All of this takes no more than 15 to

20 minutes. Since meetings start promptly on time, late-comers have a few minutes' grace before major issues are brought up.

By now, the board is ready to take an active part in the meeting, and the major reports—two or three at the most—are scheduled as the next items of business. From 15 minutes to a full hour are allowed for each major report, depending upon the seriousness of the topic and the amount of board discussion that is anticipated. After each item has been fully discussed, action is called for, and motions are stated and restated until they accurately reflect the majority thinking.

Full Discussions Encouraged

There is no railroading of decisions in Denver, even though it would sometimes seem to be more expedient than the policy of full discussion. We feel that the board meeting should be an educational experience as well as a means of carrying forward the business of the association. Board meetings are used as a training ground in which to develop future leaders in Denver's public health program. Thorough discussion of issues is required if sound understanding and personal convictions are to be developed.

The staff has full privileges of the floor in these discussions. The interplay of board and staff thinking is beneficial to both groups, and certainly to the advancement of our program.

The more routine committee reports and business matters are placed at the end of the agenda. As the meetings are held as nearly as possible to two hours' length, this system makes it possible to put relatively minor items over to another meeting if necessary, and it insures reaching decisions on the major issues.

In planning agendas, every effort is made to place primary emphasis on program considerations and to minimize discussions of administrative matters. We feel this is important if board members are to be awakened to the needs of the community TB control program and aroused to take steps to meet these needs. Therefore, program items generally precede administrative reports on the Denver agenda. In this way, program is discussed while the board is fresh and alert.

To facilitate board meetings, most program and almost all administrative matters are first fully discussed in committee meetings. The work of the association's committees is actually an extension of the work of the board. All committees are chaired by board members (although membership on the several committees concerned with program is broadly representative of the community), and consequently there is a direct carry-over of the board's general philosophy into the work of the committees. Only major committee recommendations are reported to the board.

Program committees do not report to the board after each committee meeting, but generally only two or three times a year. This policy has been adopted so that more time can be given to a program area when it is reported. By concentrating on one or two specific program areas at each meeting, we feel that greater board understanding is achieved than when the entire range of programs are reported briefly and thus superficially every month.

Frequently guests from other agencies are invited to attend board meetings, especially when program areas of mutual interest are discussed. Sometimes the board meeting is moved to a special place, such as the tuberculosis ward of the city hospital or the municipal TB clinic.

Considering that the Denver board meets monthly (except in July and August) and that much of its work is handled by committees, it might seem that in some months there would be few items for the agenda. This has not been the case in recent years. With an active, inquisitive board whose interest is constantly and deliberately being focused on all aspects of the community-wide TB program, the difficulty is to finish the meetings on time.

Whether or not the current brand of doodling by board members during meetings is reflecting Denver's trend toward the development of an enlightened, participating, and democratic board is a study for the future. However, a greatly increased attendance at meetings in the last few years suggests that the present planning is proving of interest to a greater number of board members.

BRIEFS

● **"Mr. Chairman . . . Distinguished Guests . . ."** should help make life easier for anyone who has to deliver a speech, either regularly or occasionally. Emphasizing the read, rather than the ad lib, speech, this 11-page booklet gives specific suggestions and techniques for preparation, content, and delivery. It can be obtained free of charge from the Standard Oil Company (New Jersey), Room 1626, 30 Rockefeller Plaza, New York 20, N. Y.

● **So, You've Been Elected Publicity Chairman!** is a valuable—and humorous—guide for the novice in getting organizational news into public print. Even more experienced hands should be able to pick up a pointer or two. Copies can be obtained without charge from Don Sorensen, Occidental Life Insurance Company of California, 1151 South Broadway, Los Angeles 15, Cal.

● **Tuberculosis Control: Plans for Intensified Inter-Country Action in Europe** is No. 112 in the World Health Organization's Technical Report Series. This 14-page booklet discusses the steps necessary to make statistical data comparable from country to country, as well as specific methods of TB control. Priced at $.30, copies may be obtained from the Columbia University Press, International Documents Service, 2960 Broadway, New York 27, N. Y.

● **Federal Funds for Science, V,** the fifth report in a series by the National Science Foundation, analyzes for fiscal years 1955, 1956, and 1957 the government's scientific research and development budgets according to administering agencies, scientific fields, and character of the research. Copies may be obtained from the Superintendent of Documents, U.S. Government Printing Office, Washington 25, D.C., for $.35 each.

A Nobel Prize Story

A Firsthand Report on the Obscure and Potentially Dangerous Research in Cardiac Catheterization Which Led to the 1956 Nobel Prize for Medicine and Physiology

by Richard L. Riley, M.D.

Dr. Riley is associate professor of environmental medicine and of medicine at The Johns Hopkins Hospital, Baltimore. He was formerly associate in medicine at Columbia University and assistant professor of industrial medicine at New York University. A graduate of Harvard University and Harvard Medical School, he is a member of the American Physiological Society, the American Trudeau Society, and the Association of American Physicians. His article is a contribution from the Committee on Medical and Public Relations of the American Trudeau Society.

The 1956 Nobel Prize for medicine and physiology was awarded to three men who developed the technique and, for a time, guided the destinies of cardiac catheterization in humans.

In Germany in 1929, Dr. Werner Forssmann passed a catheter into his own heart and suffered no untoward effects other than the disapprobation of his medical colleagues. About ten years later, Drs. Dickinson W. Richards, Jr., and Andre F. Cournand, of Columbia University, in New York, explored the potentialities of the procedure in a tuberculous chimpanzee and then, by cautious steps, in patients at Bellevue Hospital. In the fall of 1940, a man dying of cancer volunteered and thereupon became the first person in this country to have his heart catheterized.

From these simple beginnings sprang a dazzling and ever-expanding series of advances. Cardiac catheterization accomplished a technical breakthrough which opened up whole new areas for development and eventually led to great amelioration of human suffering among patients with cardiac and pulmonary disease.

By making possible direct sampling of blood from the heart and pulmonary arteries and direct recording of pressures from within these structures, cardiac catheterization led to vastly increased understanding of the workings of the heart and lungs, both in health and disease. It quickly drew attention, for example, to the inadequate return of venous blood to the heart in shock and at the same time provided a means of gauging the adequacy of corrective measures such as blood transfusion. Cardiac catheterization also made possible accurate diagnosis of many congenital anomalies of the heart at the very time when surgeons were acquiring the skill to operate upon such patients. Hence the "blue baby" operations and innumerable other developments in cardiovascular surgery.

Behind the Scenes

At the time the Nobel Prize awards for 1956 were announced, newspapers around the world reported much of this factual material. What they could not capture were the feelings and reactions and character of the men involved in the original obscure and potentially dangerous research. With apologies for omitting further reference to Dr. Forssmann, I should like to take advantage of the fortunate coincidences which brought me and my wife-to-be in very close contact with the early catheterization work in this country. What follows will be firsthand impressions, tempered with more mature reflection on the events of this period.

My wife and I joined in the work at Columbia University in 1940 and 1941, respectively. When after two eventful years I left for the Navy and a year later she left to enter medical school, cardiac catheterization was already becoming accepted. The seedling had produced a bud and was about to flower. But during those critical years, there were overwhelming frustrations, violent arguments, irrepressible laughs, emotional outbursts, the excitement of discovery, the quiet and inexpressible joy of increased understanding.

Remember that in those days no one was quite sure that cardiac catheterization would succeed. No one was quite sure how much risk was involved, and no one was quite sure how valuable the data would be. Here is where vision and judgment were required. One false move, one unfortunate complication, and the procedure and the men associated with it might be discredited. Cardiac catheterization was of no direct benefit to the patient. Its justification lay in the belief that with better understanding, better treatment could be administered. Drs. Richards and Cournand believed this, and, after 16 years, the world agrees. But Richards and Cournand had the vision and the intuition to sense all this before the evidence was in.

How It Was Done

There were elements of high drama in the early catheterizations, and Andre Cournand was equal to the challenge. To minimize the apparent seriousness of the procedure, the catheter was introduced into an arm vein through a large needle rather than through a neat surgical incision, as at present. It is difficult, if not impossible, to put a large needle into a small vein, particularly in women whose normally small veins may be further constricted by understandable, though reprehensible, nervousness. Not infrequently an innocent arm vein frustrated the cause of science and wore tempers thin. When, with better luck, the vein was successfully entered, the air became charged with nervous tension. If, as the catheter was guided through venous channels

into the heart, the patient had the slightest sensation, it was cause for immediate alarm and an agonizing decision. When finally the catheter had been visualized fluoroscopically and the tip localized in the right auricle, a mouthpiece and nose clip were placed in position in order to collect the patient's expired air.

Still, there remained a final hurdle, which to this day arouses in me an uncontrollable feeling of apprehension. In addition to mixed venous blood from the heart and expired air from the lungs, it was necessary to have arterial blood from an arm or leg that was not otherwise engaged. With needle poised, I was to puncture the artery on command, so that all samples could be collected simultaneously. Without arterial blood all was lost, for it was needed in calculating the amount of blood the heart was pumping. Failure could not be countenanced, yet occasionally the inevitable happened.

The Shock Team

Then came the war. The Office of Scientific Research and Development was in urgent need of information about shock following injuries. Cardiac catheterization might provide crucial data on which to base treatment. As the lights of New York were dimmed and the windows at Bellevue Hospital painted black, the Shock Team went to work. My job was to see all patients in shock and decide whether special studies were warranted. If so, the Shock Team was roused from its slumbers (bad injuries always seem to happen at night), with comments adjusted to the mood of the sleepy voice at the other end of the line.

In these studies on traumatic shock, the catheter unequivocally proved its worth, and invaluable experience in handling the technique was gained rapidly. What if Dr. Richards did make the long trek in from Saddle River, N.J., at all hours of the day and night, and what if Dr. Cournand did, on one occasion, have to ride home at 4 A.M. in the back of an ice truck. All this was incidental. Not a single serious complication had yet occurred and the technique was proving its worth.

Sufficient time has now elapsed to see where it all was leading. Seldom has a single scientific development had such impact upon basic physiology and upon the practice of medicine and surgery. Seldom has basic research on humans been directed with more wisdom and discretion, and seldom has it paid off more handsomely.

Thoracic Course in Netherlands

The sixth international postgraduate course in the fundamentals of thoracic clinical science and surgery will be held at the University of Groningen, May 27-June 15, 1957. Those interested in attending should contact Professor Dr. R. Brinkman, secretary, Moddermanlaan 1, Groningen, Netherlands.

PHS Grant for Graduate Nurses Training

Nearly two million dollars in grants have been made by the U. S. Public Health Service to 56 nursing and public health schools in this country and Puerto Rico under the Professional Nurse Traineeship Program, enacted by the last session of Congress.

From these grants, the schools have awarded traineeships to 533 qualified nurses enrolled in nursing administration, supervision, and teaching courses. However, between 650 and 700 nurses will benefit under the program this year, because some nurses who have been attending school part time for several years will now be able to complete their work in one semester, permitting one traineeship to be used for several candidates.

$1,000 Donation for Research

DR. BYRON F. FRANCIS, president of the Washington Tuberculosis Association, accepts a check for $1,000 from Mrs. M. E. Norris, president of the Washington Conference of Tuberculosis Workers. The check was given by the Washington Conference in memory of Leigh Mitchell Hodges, Philadelphia newspaperman who helped make the first Seal Sale, in 1907, a success. The funds have been assigned to the NTA research project being conducted by Dr. C. J. Martin at Firland Sanatorium, Seattle.

Of Monkeys and Men

by Agnes Fahy

Science Writer, Public Relations
National Tuberculosis Association

Because the Rhesus Monkey Is Particularly Susceptible to Tuberculosis, He Was a Natural for Vital Research into the Potentialities of Isoniazid

There were the monkeys—150 of them—and all infected with tuberculosis.

Here was a new drug which appeared extraordinarily good from the limited experience with it, but the full potentialities of which were unprobed.

It was a golden opportunity, and one which was seized by a man in a position to make the most of it.

Leon H. Schmidt, Ph.D., is a pharmacologist by training who has developed a special talent for handling monkeys, particularly those with infectious diseases. Director of The Christ Hospital Institute of Medical Research, in Cincinnati, Dr. Schmidt has found the rhesus monkey a valuable aid in research in infectious diseases since World War II. To aid current studies in tuberculosis, Dr. Schmidt is receiving a Christmas Seal grant from the National Tuberculosis Association.

Because monkeys are primates and thus belong to the same zoological order as man, they are extremely useful in studying certain diseases which afflict man. As is well known, they played a key role in the development of the vaccine against poliomyelitis and, in the hands of Dr. Schmidt, are proving a valuable instrument in the study of tuberculosis, a disease to which they are highly susceptible.

The susceptibility of the rhesus monkey to tuberculosis has always been a handicap to investigators using them in studying other diseases. Frequently, between the time the monkey is captured in his native habitat in the hills of north India and the time he lands in America, he becomes infected with tubercle bacilli. It has, therefore, become routine to tuberculin test monkeys brought to these shores for investigative purposes as soon as they arrive. If they are tuberculin positive, they cannot be used for polio, malaria, or whatever research may have been intended.

But tuberculosis? Obviously this is a different matter. The monkey with tuberculous infection is a natural for the study of this disease, as Dr. Schmidt was quick to perceive in the spring of 1952, when isoniazid burst upon the chemotherapeutic scene. The time was propitious. Dr. Schmidt had on his hands 150 tuberculin positive monkeys and, furthermore, was reaching the point of diminishing returns in the malaria research in which he had been engaged.

The Malaria Study

The malaria study had been set up under the auspices of the Office of Scientific Research and Development when it became obvious that members of our Armed Forces would be sent to countries where malaria was a grave problem. The objective was a drug more effective than quinine. Dr. Schmidt, who had developed a promising technique for testing drugs in monkeys, was asked to join the study. That part of the story dates back to the days when he was working for his doctorate at the University of Cincinnati College of Medicine. In renal toxicity studies with the early sulfa drugs, he had found that dogs were unsatisfactory because they did not excrete the drugs in the same manner as did man. The monkey was suggested as possibly a better animal for this purpose. That was the beginning of what was to be a highly satisfactory laboratory team.

The malaria studies continued after the war, but eventually Dr. Schmidt reached the conclusion that he should give up the search for the "perfect" malaria drug. Two drugs being used in combination (primaquine and chloroquine) were extremely effective. The likelihood of developing more effective agents did not seem promising enough to justify the great efforts which would be required.

The Experiments Get Under Way

Such was the situation when isoniazid was announced. Dr. Schmidt was never one to hesitate in putting two and two together. He had the tuberculous monkeys which were useless for any purpose except the study of tuberculosis; he had "clean" monkeys —that is, tuberculin negative animals which could be used for controls; he had a technique which had proved its worth in the testing of malaria drugs; and here was a drug about which there were numerous unanswered questions.

In April, 1952, he and his associates at the medical research institute, which is on the grounds of Christ Hospital but under separate management, set up an experiment with the monkeys to find out (1) if naturally acquired tuberculosis in the rhesus monkey could be controlled with isoniazid, and (2) whether the dissemination of tuberculous infection from infected to noninfected monkeys could be prevented by isoniazid.

One experiment was planned primarily to find out how quickly monkeys acquired disease, and the type of disease acquired, when exposed to tuberculosis through proximity to infected animals. Thirty-nine clean monkeys were divided into groups of nine or ten and placed in four cages. A tuberculin positive animal was placed in each cage. Within nine months all of the originally noninfected monkeys were tuberculin positive, and within five more months all were dead of tuberculosis. The pathologist who autopsied the monkeys, Dr. Paul N. Jolly, described the disease as characterized by massive areas of caseous material resembling the "galloping consumption" frequently seen

in children before the days of streptomycin.

In another study, which was actually the first one set up on tuberculosis, 51 clean animals as controls and 127 infected ones were used. Isoniazid was given in relatively small doses to both groups. During the first two months of treatment, eight of the infected monkeys died. Of the remainder, 20 per cent showed improvement, 20 per cent seemed worse, and the rest showed little change during the same period.

Toxicity Studies

Careful studies were carried on throughout to determine possible toxicity, and the animals were X-rayed every two months. Since at the time the investigators had no special X-ray equipment for the monkeys, they did the X-raying at night in the hospital department after hours to avoid possible annoyance to patients.

The toxicity studies indicated that the animals could tolerate a dose much higher than had been tried and proportionately higher than had been given to human patients. When no toxicity became apparent on the low dose, and because of disappointment over early results in treatment, Dr. Schmidt increased the dosage gradually from five milligrams to 20 milligrams per kilogram of body weight. With the increased dosage, no animals died and virtually all showed improvement on X-ray at the end of five months.

"With an adequate dosage of isoniazid," concluded Dr. Schmidt, "we found that we could control tuberculosis in the monkey."

As for the second point—whether isoniazid could serve as a prophylactic—the results were somewhat confusing. The tuberculin negative animals in the cages with the positive, or infected, monkeys did not develop tuberculin hypersensitivity during a year of treatment with isoniazid. However, when these animals were separated from the infected animals and isoniazid was withdrawn, approximately 50 per cent developed tuberculin hypersensitivity within 10 months and also X-ray and anatomical evidence of disease.

"We are not sure what happened," says Dr. Schmidt, "but we are inclined to think that the tubercle bacilli inhaled while the monkeys were in the cages with the infected animals were unable to multiply due to the presence of isoniazid. However, they had remained dormant in the phagocytes (large cells which ingest microorganisms), since no immune process had been set in motion to produce killing effects. When isoniazid was stopped, bacilli were freed from the phagocytes and began multiplying—and sensitivity and disease developed."

By the time a year had passed Dr. Schmidt and his associates recognized that they had an extremely valuable tool both for the testing of antituberculosis drugs and for studying basic biological features of pulmonary tuberculosis. Thus it was decided to devote a major part of the institute's resources to studies on tuberculosis. Additional personnel trained in biochemistry, bacteriology, and clinical aspects of tuberculosis were brought into the organization, and to avoid the late evening treks to the hospital X-ray department, X-ray equipment patterned for work with monkeys was designed and developed. Grants to aid the work have been made by the U.S. Public Health Service and the NTA in addition to funds allocated by the institute.

A basic study resulted in the development of procedures for producing pulmonary tuberculosis at will in the rhesus monkey. The initial work on this was helped by funds from the Cincinnati Anti - Tuberculosis League, which, according to Dr. Schmidt, pushed the institute's work ahead by nearly a year.

Additional Studies

Later studies have included evaluations of isoniazid and streptomycin, given separately and together, and studies of the activity of such new drugs as cycloserine. These, in the opinion of Dr. Schmidt, have shown that "studies in the monkey can give uniquely valuable information on new and old antituberculosis drugs." Still other studies have included ones on isoniazid-resistant organisms in which Albert A. Grover, Ph.D., bacteriologist, and Dr. Jolly have collaborated with scientists in other laboratories, and on the disposition of isoniazid in the body.

The latter study, originally carried out in the monkey by Hettie Hughes, Ph.D., a biochemist, who is another member of the institute team, has led to a clinical study in cooperation with the College of Medicine of the University of Cincinnati. Set up under the direction of Dr. John Skavlem, former president of the NTA, and designed to determine the relationship between the therapeutic effectiveness of isoniazid and the way in which patients metabolize the drug, this study is now under the immediate supervision of Dr. J. Park Biehl, formerly an NTA research fellow. It would appear that some people, like monkeys, vary in the way they metabolize the drug and that those who inactivate it more readily benefit less from it.

Beginning with the development of a technique for the study of the toxic effect of drugs on the kidney and proceeding to learn how to manage the rhesus monkey for the enrichment of scientific knowledge, Dr. Schmidt has become master of a valuable tool for the study of tuberculosis in the primate.

At present he is engaged in a study which may prove to be his most important contribution to tuberculosis research. He is attempting to produce in the monkey the counterpart of the type of chronic tuberculosis found in man. To aid him in this phase of his work, he is receiving the medical research grant from the NTA.

The procedure being followed by Dr. Schmidt is to vaccinate his monkeys with BCG, so that when the animals encounter virulent tubercle bacilli they will react with some degree of immunity. Thus, it is expected that instead of the acute type of disease characteristic of the monkey, a more slowly developing, subacute form of disease will be produced. With this type of disease producible in a test animal, the stage will be set for trying new drugs in varying dosages under conditions as closely resembling those in man as can be produced in a lower animal.

New Ridgewood Sanatorium

A new $325,000 Ridgewood Tuberculosis Sanatorium was opened in Richland County, S.C., in December. J. B. Caughman, president of the Richland County Tuberculosis Association, presided at the dedication ceremonies.

X-rays at State Fair

Onondaga association plays major part in making annual survey a success

From snake charmers to manufacturing exhibits, from magicians to farm-product displays, the annual eight-day New York State Fair offers something for each one of its 100,000 daily visitors. Not the least of its attractions is the mobile chest X-ray unit provided by the New York State Department of Health in cooperation with the Onondaga Health Association.

At the 1956 fair, 7,887 films were taken—an average of 100 X-rays an hour. The Onondaga association starts recruiting volunteers five months before the fair opens, and then holds orientation meetings in groups of 20 at association headquarters to explain the survey's purpose. Last year 300 volunteers were used, representing 30 organizations.

Although the work is strenuous, the volunteers insist it is also fascinating. Indians in full regalia and Asiatics in their native garb are among those applying for X-rays. The association booth also serves as a meeting place for families attending the fair. Mothers carrying children as well as single persons use the extra chairs provided to take time out for a rest and are also encouraged to take another few minutes for a chest X-ray.

The Onondaga association hopes to continue its program indefinitely, because of its fine public relations value.

Governor and Mrs. Averill Harriman were among the thousands who had chest X-rays at New York State Fair. Here they are greeted by fair director William Baker.

Russian Translations

To help American scientists keep up to date on Russian medical research, the National Institutes of Health, U. S. Public Health Service, will provide translations of leading Soviet scientific publications, as well as some specially selected monographs, to medical and scientific libraries and to government agencies. The program will be financed by a $250,000 Congressional appropriation and will also include publication of a Russian-English medical dictionary.

Vermont Groups Embark on Cooperative Project

Late in 1956, the executive directors of 12 voluntary health agencies in Vermont met with Dr. Robert B. Aiken, commissioner of health, and members of the State Health Commission for the first of a projected series of such meetings. The participants believe that through such get-togethers the agency executives will become better acquainted with one another's activities, will keep the health department better informed on agency activities and vice versa, and possibly serve in an unofficial advisory capacity to the health department.

In addition to the Vermont Tuberculosis and Health Association, the agencies represented were the Vermont Chapter of the Arthritis-Rheumatism Foundation, the Vermont Heart Association, the National Foundation for Infantile Paralysis, the Elizabeth Lund Home (for unwed mothers), the Vermont Mental Health Association, Caverly Preventorium (convalescent home for children), the Vermont Association for Retarded Children, the Vermont Chapter of the National Multiple Sclerosis Society, the Vermont Association for the Crippled, the Vermont Association for the Blind, and the Vermont Cancer Society.

Pan-American TB Conference

The eleventh Pan-American Congress on Tuberculosis will be held in Medellin, Colombia, April 28-May 3. The registration fee for doctors is $5, for others $8. Checks should be made payable to the treasurer, Dr. Luis Pelaez Restrepo, Tesoreria del XI Congreso, Panamericano de Tuberculosis, Distribuidora "Lyr" Ltda.—Boyaca #51-38, Medellin, Colombia, South America.

Admission X-rays in Wyoming

The Sheridan County Memorial Hospital will be the first hospital in Wyoming to routinely X-ray general admissions. The program is expected to get under way early in January. General hospitals in Casper and Cheyenne are tentatively planning to set up similar programs.

Jane Hoey Retires

Director of Social Research for the NTA retires into active volunteer service

On December 31, 1956, Miss Jane Hoey retired as director of Social Research Division, National Tuberculosis Association. Since 1954 she had been responsible for planning and directing studies of economic, social, and psychological factors in the development of tuberculosis, in recovery from the disease, and in the maintenance of health after recovery.

Prior to joining the NTA, she organized the public assistance programs in Washington and served for 18 years as director of the Bureau of Public Assistance, Social Security Administration, Department of Health, Education, and Welfare. Earlier, she was assistant director and secretary of the Health Division, Welfare Council of New York City, and held responsible administrative positions in other welfare and health agencies.

A graduate of the New York School of Social Work, Miss Hoey has an A.B. from Trinity College in Washington, D. C., and an M.A. from Columbia University, and has been awarded honorary degrees by Holy Cross College, Trinity College, Boston College, and the University of Minnesota.

In 1955, she received the Florina Lasker award for distinguished service in the field of social work.

Retirement for Miss Hoey means that she will now be able to devote additional time to her almost countless volunteer activities. Among other duties, she is president of the Council on Social Work Education, vice president and member of the executive committee of the National Social Welfare Assembly, a board member of the American branch of International Social Service, a board member of the New York School of Social Work, president of the William J. Kerby Foundation, and a member of the executive committee of the International Conference of Social Work.

New Staff Members for Two NTA Divisions

William F. Roberts has joined the National Tuberculosis Association as an associate in the Seal Sale Division. He was executive secretary of the Baton Rouge (La.) Area Tuberculosis Association from 1953 until 1956. Prior to this he was health information specialist with the Louisiana State Health Department and a reporter on the New Orleans *Times-Picayune*.

Carl J. Peter, a new associate in the NTA's Health Education Division, will be responsible for consultation on adult health education, particularly as it relates to volunteers and industry. He was formerly director of health education, Macon County (Ill.) Tuberculosis Association; executive secretary, Kankakee County (Ill.) Tuberculosis Association; and field secretary, Illinois Tuberculosis Association.

Sanatorium Gets Library

The Oakland County (Mich.) Sanatorium has received a 100-book library from the Grace Ferris Memorial Library Fund of the Alpha Xi Delta sorority. The grant is presented to TB hospitals in honor of Miss Ferris, who died of tuberculosis. The fund is supported by voluntary contributions of Alpha Xi Delta alumni and university groups.

PEOPLE

The American Public Health Association announces the election of the following officers: president, **Dr. John W. Knutson;** president-elect, **Roy J. Morton;** chairman of the executive board, **Lawrence J. Peterson;** and treasurer, **Charles Glen King.**

Dr. Martha M. Eliot resigned as chief of the Children's Bureau, U.S. Department of Health, Education, and Welfare, effective January 1, to become professor and head of the Department of Maternal and Child Health in the School of Public Health, Harvard University.

Mrs. Aliene Forsyth has been appointed executive director of the Washington County (Okla.) Tuberculosis Association, to replace Mrs. Dorothy Taliaferro, who resigned.

The Virginia Trudeau Society has elected the following new officers: president, **Dr. William E. Apperson;** vice president, **Dr. Thomas N. Hunnicutt, Jr.;** secretary-treasurer, **Dr. W. E. Roye.**

Miss Marguerite Breen, director of public relations for the Minnesota Tuberculosis and Health Association, retired in November to marry Nicholas Burmesch, of Desert Hot Springs, Calif., after 32 years with the association.

Dr. H. S. A. Alexander, assistant medical director of St. Vincent's Hospital and Sunmount Sanatorium in Santa Fe, N.M., died in November. He was president of the New Mexico Tuberculosis Association in 1943, 1944, and 1945.

Mrs. Pearl Allen, executive director of the Livingston County (Ill.) Tuberculosis Association, died last October at the age of 44.